

Amchitka Island

...an Offsites Project

Background

During the Cold War, nuclear testing activities were conducted at sites in five states. One of these sites is located on Amchitka Island, Alaska, a remote island in the Aleutian Chain. Three underground nuclear tests were conducted on the island in the late 1960s and early 1970s.

Restoration efforts at these “Offsites” are the responsibility of the U.S. Department of Energy (DOE) Nevada Site Office. The Nevada Site Office has conducted environmental restoration efforts at the Amchitka site, completing a surface remediation effort in 2001. The Nevada Site Office continues to move toward finalizing surface closure and establishing long-term surveillance and monitoring.

The Amchitka site is part of the Nevada Site Office Environmental Management Offsites Project, which encompass various sites in several states where underground nuclear tests and experiments were performed outside of the Nevada Test Site. Locations include Alaska, Colorado, Mississippi, Nevada, and New Mexico. Under the Offsites Project, the Nevada Site Office is responsible for addressing possible contamination associated with nuclear testing activities and carrying out appropriate corrective actions.

History

Amchitka Island, Alaska, is located near the western end of the Aleutian Islands, approximately 1,340 miles west/southwest of Anchorage, Alaska. The U.S. Atomic Energy Commission, predecessor agency to DOE, conducted several underground nuclear tests on the island.

The first test, Long Shot, was conducted under the Vela Uniform program. The objective of this program was to improve the nation’s ability to detect, identify, and locate underground nuclear tests and to distinguish associated seismic activity from that of an earthquake. Long Shot was detonated on October 29, 1965 and had an approximate 80 kiloton yield. Long Shot was unique in two respects: it was the first underground test planned for a remote island and the first managed by the U.S. Department of Defense.



Milrow, the second Amchitka nuclear test, took place on October 2, 1969. This test, with a yield of approximately one megaton, was designed to study feasibility of detonating a much larger device on the island at some point in the future.

The final nuclear test conducted on Amchitka Island was Cannikin, a less-than-five megaton, weapons-related test that was detonated on November 6, 1971. Cannikin was the largest underground nuclear test conducted in United States history.

Amchitka Island is now a large part of the Alaska Maritime National Wildlife Refuge, which conserves fish and wildlife populations and habitats, and supplements a program of national and international scientific research.

Restoration Efforts

DOE performed studies in 1993, 1997, 1998, and 2000, to assess surface environmental impacts attributed to past nuclear testing activities. Results of these investigations led to an extensive surface remediation effort in the summer of 2001 to address petroleum by-products found in mud pits. The mud pits were formed to hold large quantities of drilling fluid produced from drilling boreholes as part of the testing program. To address this surface contamination, the Nevada Site Office drained surface water off the pits, mixed drilling mud with native materials, placed a geosynthetic cap over the pits to isolate the mud from the surrounding environment, and revegetated the site. The Nevada Site Office also closed 16 unnecessary shallow groundwater monitoring wells and two underground storage tanks used to store tar for runway maintenance.



Workers digging at Amchitka

Path Forward

Discussions are underway between the Nevada Site Office and regulators to determine the most feasible path forward to address the issue of subsurface contamination. The Nevada Site Office will use a groundwater model to predict the flow of radionuclides remaining from the nuclear tests. Information from this model will be used to evaluate the potential risk of radionuclides to the surrounding marine environment. The results of the risk assessment will be shared with regulators and stakeholders to negotiate a long-term stewardship program for the management of the subsurface contamination.

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